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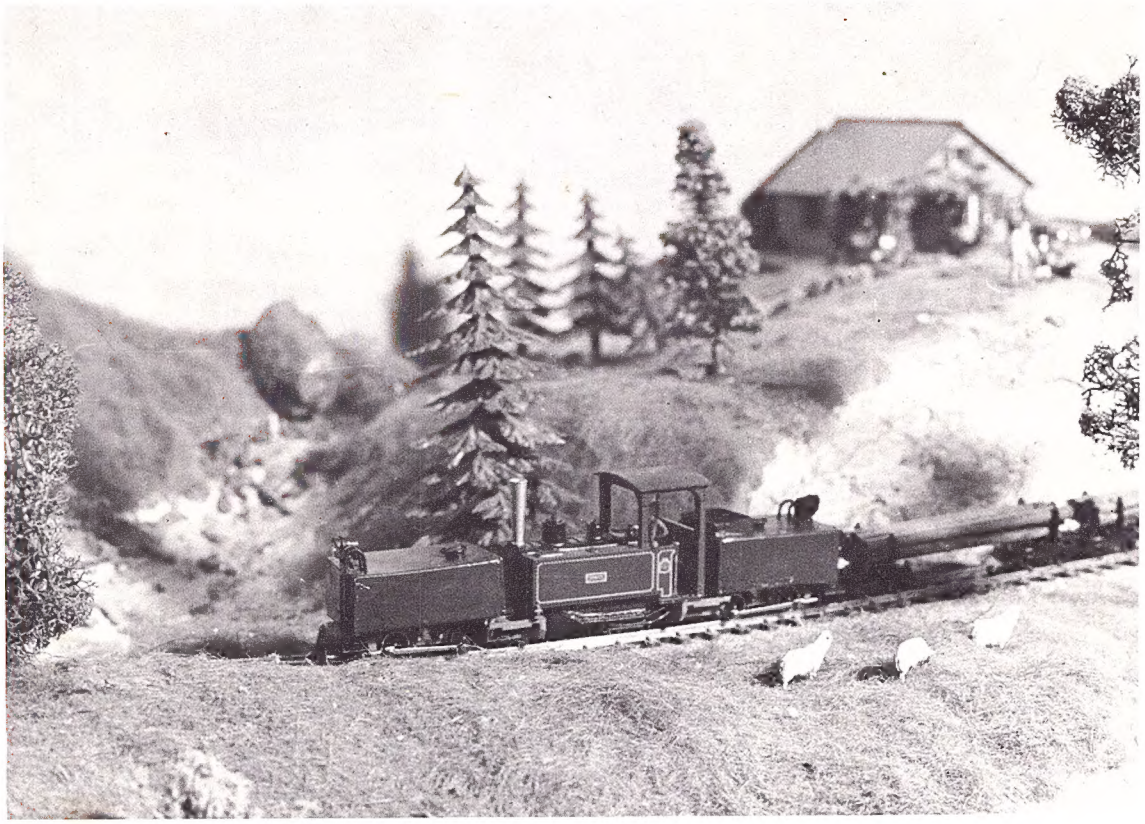
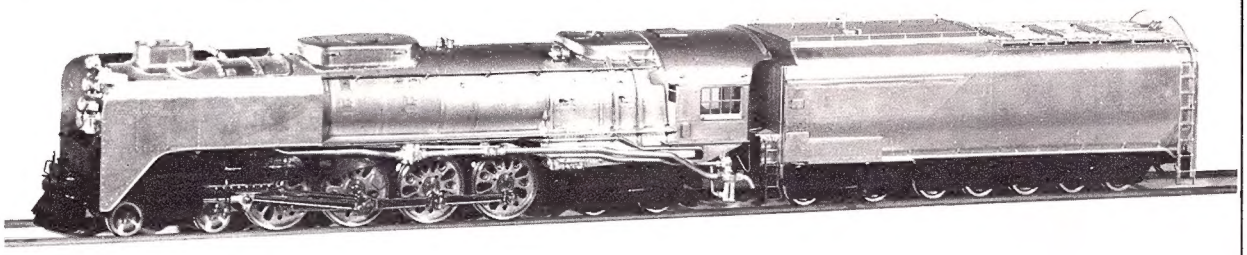


NEW LOCOMOTIVES FROM KATSUMI IN O SCALE....



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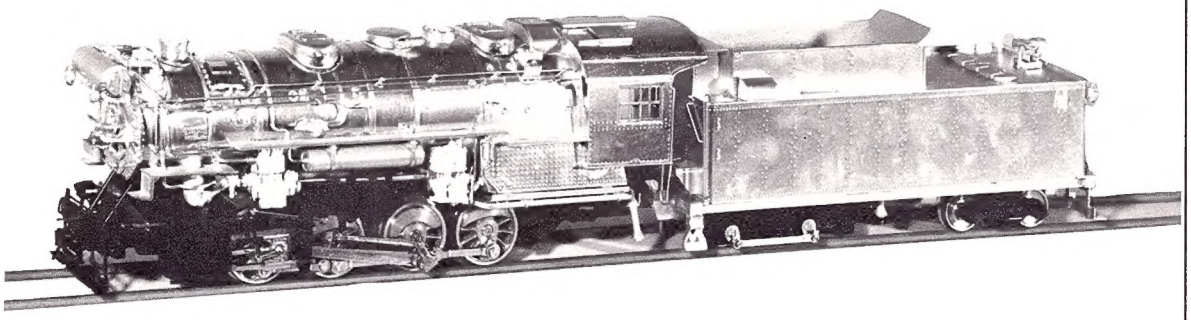
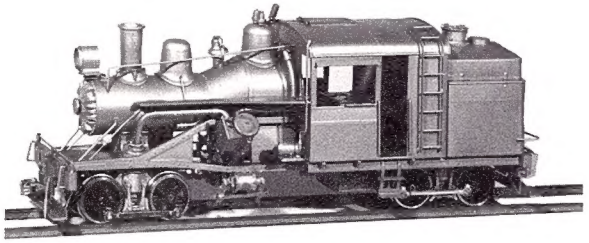
Fully detailed externally and fitted with sprung loco. frame, trailing truck, tender pedestals and tender truck. Equipped with twin working headlights, removable smoke deflectors and Commonwealth pilot with working radial plate and coupler. Pre-blackened frames, pilot, trailing truck and tender trucks. **PRICE** **$342.00**

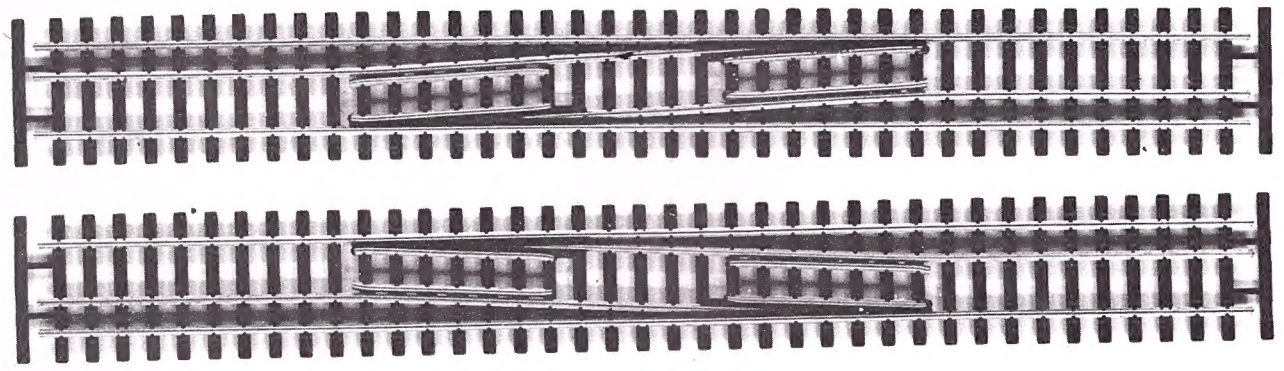


INDIANA HARBOUR RR. 0-8-0 SWITCHER & TENDER:
A massive Switcher designed for the heaviest yard service. Equipped with Franklin booster truck, rectifier controlled head and back-up lights, and back head detail. Sprung, pre-blackened frames and Gresley conjugating valve gear. (Yes! The full working lever motion is on the front pilot deck.)
PRICE **$271.50**



HEISLER GEARED LOCO.
For loggers working in ¼ in. scale, Westside's fine 0/0n3 Heisler now joins our range — even if but briefly! Finely constructed and geared. Model comes with extra truck set, to permit operation on either 0 or 0n3 gauge tracks. **PRICE** **$167.95**

THE FASCINATION OF 'DUAL GAUGE'



Following on the recent introduction of Dual Gauge HO/HOn3 Flexible Track and Turnouts in the 'Shinohara' range, now comes the essential Transposition Track Sections, for throwing over the common rail, either to the left or right hand side, as desired. Above is shown the Left Hand Transposition Section and below it, the Right Hand Section. Now in stock @ $3.50 each.

Other News from "THE DOCKYARD". . . .

For O Gaugers, our range now includes Jackson metal insulated 22 mm. Coarse, 8 Spoke Wagon Wheels and Scale, 3 Hole Disc Wagon Wheels. Also. 24 mm. Scale and Coarse Coach Wheels. All @ 40c per pair. Scale 8 Spoke and Coarse 3 Hole Disc Wagon Wheels are to come later . . . . Modellers working in N scale will welcome Custom Models 2 and 3 Aspect Colour Light Signals @ $1.30 and $1.55 each, respectively. Initial demand will far exceed the supply, but stocks will be available from all Sekisui and Minitrains' outlets, so those interested should reserve their needs with the nearest stockist . . . Traction fans interested in Pacific Electric will now be able to add the "Portland" Coach and Combine Cars to their system. Both now being in stock @ $43.00 each . . . Following recent introduction of the Los Angeles Railways 'H-1' Class Car, the 'LARY' series are being expanded by the addition of CE, F and F-4 Class Cars. All of which are now in stock @ $51.00 each. . . With an increasing interest in diesel motive power, our extensive range of HO brass 'growlers' is scheduled to grow even larger in the time ahead. Current arrivals are the steel G.E./ U33C 3300 H.P. Road Switcher @ $61.25, EMD/SW-1 600 H.P. Switcher @ $52.70 and the big EMD 'F-3' A & B Cab Units @ $81.60. This consignment also includes the interesting Pennsy. 'DD-1' Class articulated Electric Locomotive, with jack-shaft drive @ $119.00 . . . Train-Miniature have now supplied the Alco FA-1A Freight Diesel in G.N. herald. Both Powered and Dummy are available at $18.50 and $7.85 each, respectively . . . Again in stock are the well known CLIPPER and DUETTE Power Units. The former, priced at $19.00 and the latter, at $28.50 . . . By the time these notes appear in print, Tenshodo will have supplied our first stocks of the C.P.R. 'Royal Hudson' Locomotive @ $180:00. Also new from Tenshodo, but catering for the N scale fraternity, is a light duty Rheostat for panel mounting. Tenshodo's Heavy and Medium Controllers have long been favoured in HO for their quality. Now this new model is available @ $4.25, for those N gaugers wanting a finely calibrated and reliable Rheostat. Long out of stock and due from Katsumi about the end of December, are more full length, streamlined N.Y.C. Coach @ $15.30 and P.R.R. Full Baggage Car @ $19.60. For O gaugers, the same shipment will contain the massive Santa Fe 2-10-4 @ $361.85.

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- ★ We sell only Model Railways and carry good selections of all that we consider good and reliable and that we can recommend.

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A2 A.H. Peppercorn	180/9
Triang Locomotives 'OO'	
R52S 3 F Loco tank	53/-
R150S B 12 Loco & tender	77/-
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Fleischmann 'OO' Locomotives	
4000 Black Anna	104/-
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1363 Black Mustang BR50	314/-
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36 in 'Y' Point (RAD)	14/11
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30 Thou thick	2/3
40 Thou thick	3/3
60 Thou thick	4/6
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SL102X Concrete N/S	8/3
SL100X Wooden N/S	8/3
SL100S Wooden Steel	5/9
SL91X Point Med Rad L/H	15/6
SL89X Point large Rad L/H	20/-
SL50 Ballast•Track	9/6
SL70 Point Motor	8/-
Peco 'N' Gauge Points and Track	
SL300X Wooden N/S	6/3
SL388X Point L. Rad R/H	16/9
SL391X Point Med. Rad R/H	15/-
SL394X Long Crossing	17/6
Peco '009' Track and Points	
SL400X Wooden N/S	3/11
SL491X Point R/H	13/11
SL492X Point L/H	13/11
SL440X Buffer Stop	2/6
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385X Catch Point L/H	10/-
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'OO' Gauge	
85X Catch Point L/H	12/-
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Minitrix 'N' Gauge	
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Australasian Model Railroad Magazine

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March/April 1971 Vol. 5 No. 2 Issue 49

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comment

Now that there are a number of manufacturers producing, or intending to produce, scale models of local prototype, the need is more than ever apparent for the drafting and our own standards, especially as far as couplers and, to a slightly lesser extent, wheels are concerned, in order that we do not manage to inflict upon ourselves through our own apathy chaos to rival that of the breaks-of-gauge which have rendered the railway transport systems of this country open to confusion and criticism. At present, manufacturers are, in general, steering clear of this particular worry by either not supplying couplers with their kits, merely being content to let you, the modeller, spend extra on couplers (and, sometimes, wheels!) of your own choice, or supplying dummy couplers which, while being a step in the right direction, is far from being the solution to the problem.

Of course, there will be those who will argue that there is not much wrong with the present system; I must refer them to the United States of around thirty years ago, when the hobby was commencing a boom period, notably in HO scale — this opposed to the O scale toy trains of the period — when they faced the same troubles as are besetting us today. They did not sit on their proverbials and wait for the inevitable confusion to arise; the challenge was met, standards were drawn up and manufacturers required to comply with them, and thus was avoided the great coupler chaos.

For those who still want to sue XYZ brand couplers, etc., because conversion costs would be too great, fair enough; the Kadee Metal Products Co., a manufacturer of couplers in the U.S., did not go out of business as a result of standardization, rather the opposite. There is always room for independence in the hobby, but the line has, of necessity, to be drawn somewhere — if every modeller used different equipment (to go to the extreme) where would we be? Shoving a certain shack, that's where! But I must make the point that standards are not laws; they are to be used as guidelines, and there is no decree that says "Thou shalt use X2F couplers to such-and-such tolerances of height, etc." — you have the choice whether to adhere to them and to what degree.

Once again I must stress the need for urgency, before it is too late to undo any damage which is done. And not only with couplers, most of the incidental items including wheels, bogies and loading gauge, to mention a few. If it is not done now, it will be too late.

R. Wurlod

ON THE COVER

Toowoomba Model Railway Society HOn2½ Garratt clears Darjeeling Loop with a load of piles for the Main Roads Department.

shop detective

Austral Modelcraft, better known to Brismodellers as Clives place, has been re-modelled (if you'll excuse the pun) and is now showing much more of his quite extensive stock.

Scratch builders will please note an excellent stock of Selleys and others soft metal castings, drivers and wheels of most brands, and most important of all Northeastern siding and shapes. In fact everything to assist the local prototype modeller.

After several moves Quality Right has has come to rest in a cake shop (yes a cake shop!) at JIndalee. The usual range of imports are on display and of particular note is the last 32 classes in Qld — possibly further afield. Quality Right also has a mail order service.

A recent visit to the home of Peter Wilkins of 90 Brisbane Corso, Fairfield, proved to be of interest. He has 16 volt transformers and other electrical gear at reasonable prices. So if you're contemplating making a TAT IV or something similar, or if you have an electrical problem, contact Peter on 4-3880.

For all your brass supplies contact George Weston of 42 Charlotte St., City. All standard shapes and sections are in stock, also they have a scrap box of small lengths. Minimum charge is 20 cents.

Fantastic Hobbies in Angel Place, Sydney, has just received large stocks of Protype rolling stock kits, and has some Tri-ang TT scale still available.

Searle's of Pitt St have a complete range of Rokal TT and LGB narrow gauge equipment as well as the whole Marklin range.

Hobbyco of George St. have probably the biggest stock of N gauge in Sydney, including the Bachmann range of N gauge equipment at very good prices.

reviews

Two Span Trestle Kitset in 'HO' scale manufactured by Pacific Scale Models, Christchurch N.Z. who supplied our sample. $2.59 in New Zealand.

To our knowledge their is no specific prototype for this structure, however, as supplied it follows an acceptable trestle culvert design suitable for heavy operation.

Packed in an eye-catching yellow box the kit consists of about ten labeled parcels of rather well finished pine timber, most of it pre-cut to length, with two sheets of comprehensive instructions and full HO scale drawings. It is quite a simple matter to follow the instruction sheets for a couple of evenings to come up with an excellent wood structure which scales out at 42' long, and approximately 13'6" maximum height, the abutment retaining walls being 7' high.

However, being a craftsman type kit one is not restricted to the plan to obtain a good model. All columns supplied are full length, it is therefore no problem to butt two or more kits together for a longer bridge. Another modification which comes to mind is to lighten the bents to make a lighter lines bridge. Just by leaving a bit off here or adding a bit there, almost any small wooden bridge could be made using this kit as a base to work from. In a word, versatile.

To sum up, while care must be taken, this is a good kit for the beginner and a worthwhile addition to the scenery of any layout.

K.J.R.

MARKLIN "K" SERIES TRACK

This new type stud contact track greatly resembles two rail sectional track. It has individual running rails of roll-formed rust-resistant alloy on a plastic sleeper base. The stud contactor is a stamped steel section under the sleepers. The studs are projections of this section that protrude through the sleepers, sufficiently for the pickup skate to to make contact.

The rails are joined by conventional rial joiners. The steel contact strip has phosphor bronze slide connectors. A plastic extension of the sleeper base clips the sleeper bases together; it also serves to physically separate the running rails from the stud contact connecting tongue.

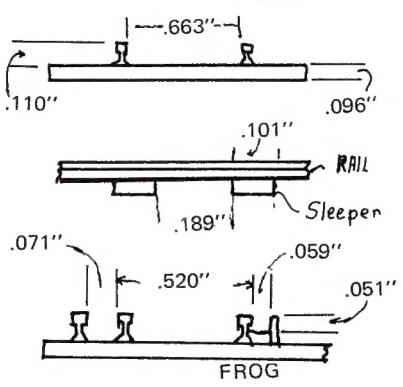
The points and crossing are similar to two rail track, but at sections where the pickup skate must cross rails. The running surface is plastic and the contact surface is at the base of the flangeway. This allows the studs in these areas to be lower and less conspicuous.

The dimensions of the track are shown in the table. It is basically intended for Marklin users, but could be used for an independently-controlled on a basically two rail layout, such as a helper district on a steep grade. The points can be easily modified to two rail power, but short locos with fine flanges would stall on the points. Two rail locos with contact wheelbases longer than the plastic-railed section of the points will have no trouble, regardless of flange depth.

The track comes in straights, 12", 15" and 18" radius curves, points (both manual and electric), crossings, curved points and double slip switches. Special tracks are available for actuating signals and automatic train control. The prices are slightly above comparable quality two rail sectional track.

Supplied by J. SEARLE & SONS, Pitt St., Sydney.

R.J.T.



TENDER INTO TANK by R.G. Preston. Published by the A.R.H.S. Newcastle Branch. Available from: A.R.H.S. SALES, Box E129, P.O. St. James N.S.W. 2000.

The author states in his Note at the beginning of this book that it is a record of "those details connected with them (12, 13, 14, 19 and 20 class locomotives of NSW Railways) which I found of interest."

As indicated in the quote above, the book professes to be a sort of history of the 12, 13, 14, 19 and 20 class locomotives of N.S.W. Railways all of which are in some way associated with the theme of the book, the conversion of locomotives from tender type to tank type. This mixture of history and reminiscence can appeal only to those who prefer this type of book to the heavier reading which is sometimes published. Personally, I find the ubiquitous companion, Jim, a trifle annoying.

The book appears to have been printed letterpress onto offset type paper, with a detrimental effect to some of the photographs. The diagrams and maps are well-drawn and there are reproductions of typical working timetable references.

To those who favour this type of writing, the book is of interest. To others of only small interest as part of their railway library. The price of the book from the A.R.H.S. Sales Department is $6.75, but from bookshops will range as high as $9.00 since the increase in mark-up.

G.S.B.S.

TRIANG HORNBY SYSTEM 6 TRACK

Tri-ang's track now matches most other brands of two rail track in appearance and rail size. The Code 100 steel rail is fastened by simulated chairs to 10" x 6" x 8'6" sleepers at 2'0" centres (HO scale). There is a gap between the sleeper base and the rail for fitting clip-on accessories. The rail is 0.095" high (Code 95); the track gauge is 0.652" which is to NMRA standard S3. The end sleeper of each section is a clip to ensure the alignment of the sleeper bases to get kink-free track. The fish-plates are sturdy enough to withstand repeated assembly and dissembly for temporary layouts. The rail ends are pointed to ensure smooth rail joints. The track comes in flexible yard lengths, straights and 19-7/8", 17¼" and 14-5/8" radius curves.

The points are equivalent to a straight track and a 17¼" radius curved track. The frog, guard rails and operating mechanism are moulded internally with the sleeper base. The operating mechanism is all plastic, extremely robust and well designed. The standard Tri-ang point motor clips to the side of the point. The points are self-isolating with sprung contacts for good conductivity. They ran anything capable of negotiating the 17¼" curve.

An Athearn SD45 with RP25 wheels ran through easily. The points are as universal as any I have seen, as they run any wheels without doctoring the point frog. This sectional track system is a credit to its designers as it is the only one I know of capable of running scale and Tri-ang without modification.

R.J.T.

CASTLEDARE 7¼

John Beckhaus

Located in picturesque surroundings on the Canning River at Manning, a southern suburb of Perth Western Australia, is the Castledare 7¼'' gauge live steam minature railway. It is in the grounds of the Castledare Boys Home. The idea for the railway was formed in 1963 when a live steam modeller completed a locomotive and was looking for a location to built and operate a railway.

The Castledare location was ideal as the boys of the home were able to join in to help build the railway and some funds from the railway were able to help the home.

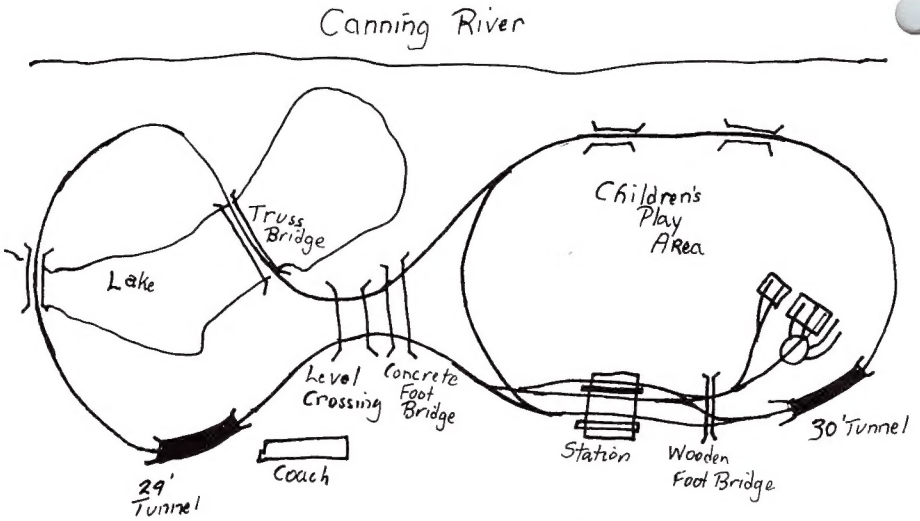
The railway at the present has 4,000 feet of track with further extensions in hand. The scenic location of the area has lent itself to imaginative planning; bridges and tunnels have been included along with well sceniced lakes and gardens and a children's playground. An 1890 vintage Western Australian Railways passenger coach was donated and is used for clubrooms and Tearooms.

The line has three bridges 100', 30' and 20'; and two tunnels 30' x 8' diameter and 24' x 6' diameter. The grades are 1:100 and 1:40. Normal operation is in clockwise direction, although the photographs illustrating this article were taken on the open day last November when anticlockwise operation was used. When running in the clockwise direction the station area is interlock with colour light signals operated by PMG lever keys controlled by the point blades.

The members operate their own locomotives on a roster basis but the club has the rolling stock held in the car shed. The passenger cars are bogie open well wagons fitted with a centre longitudinal seat carrying four adult passengers. A brake van for the guard is attached to the longer trains. There are two types of van in service, Four wheel English type, brake vans and bogie caboose. There are also some freight wagons for running freight trains. These wagons are mainly four wheel tank cars and side dump wagons. All rolling stock is fitted with Meat chopper type couplings.

Visitors are welcomed on the running day on the first Sunday of each month and to the monthly general meetings held in the coach on the third Friday.

Membership of the railway cost $4.00 for adults and $1.00 for juniors, retired or country members and includes a bi-monthly bulletin 'Cinders and Soot'.



Castledare Station
0-4-2 Side tank locomotives 'Heidi' and 'Nelli' load passengers while drivers attend to their charges and wait for the 'road'.

Main Truss Bridge
0-4-2 Side tank 'Heidi', owned by Keith Watson hauls three passenger cars and the caboose across the lake.

Diesel Train
CO-CO Diesel '4041' powered by a four cylinder fiat petrol engine and driven by owner Jack Stanbridge, hauls two cars along the river bank.

Level Crossing
0-4-2 Tender equipped side tank 'Kalgurlie' owned by Enni North operates light engine on a test run over the level crossing after passing under the concrete pedestrian overbridge. The river is in the background.

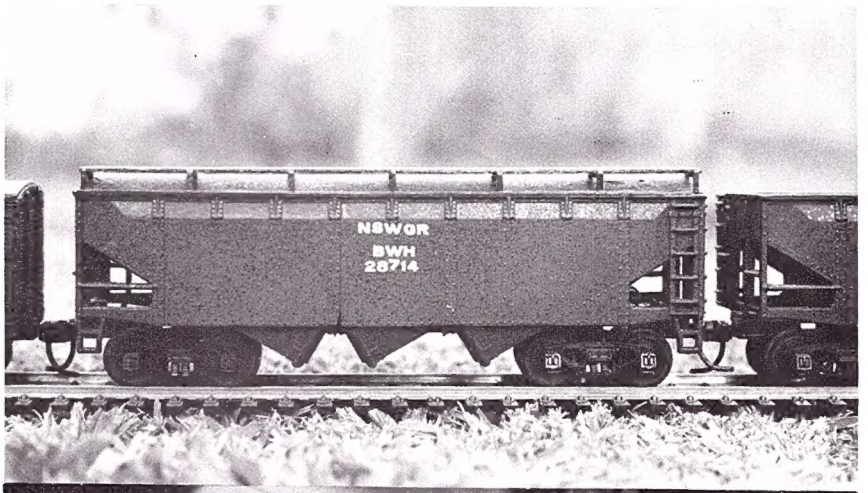
Photos by J.G. Beckhaus.

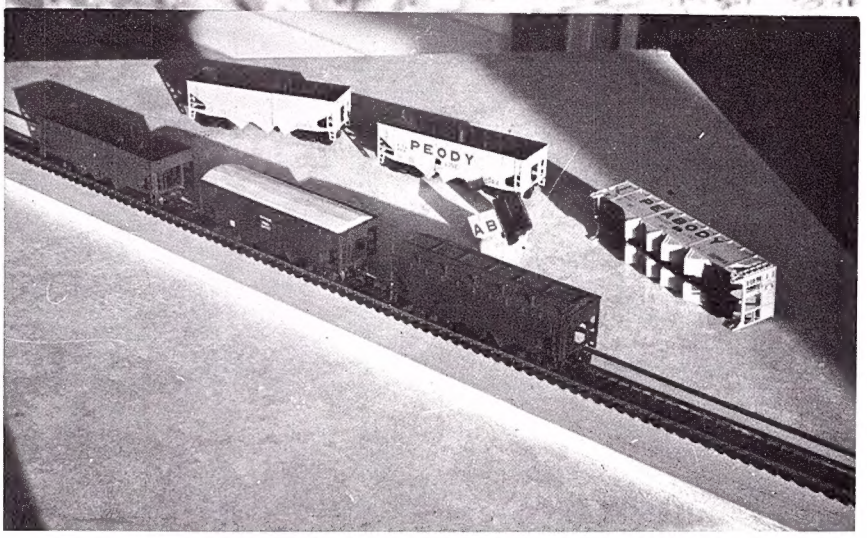
RIVAROSSI QUAD HOPPER GONE WRONG

Kevin Ryan

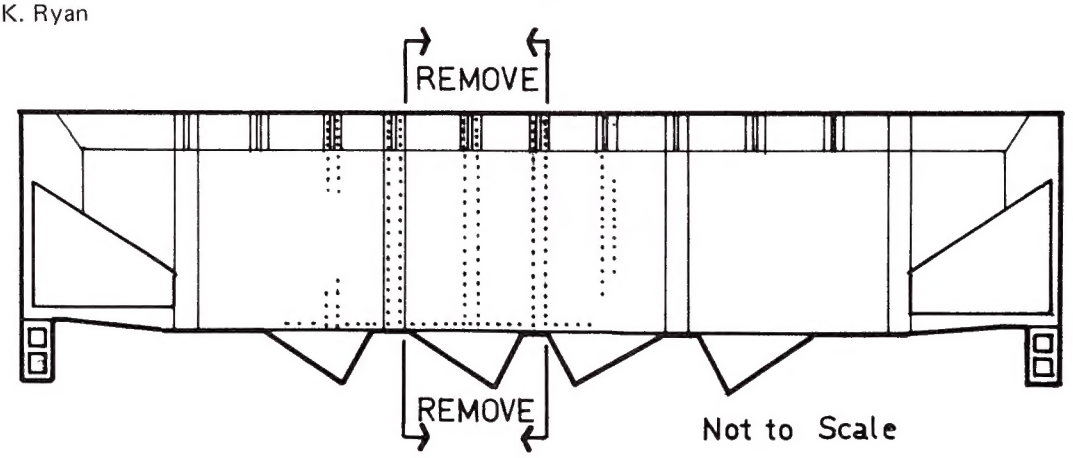
In the following few words I will endeavour to show what can be done to Rivarossi's Hopper Car Kits to 'localise' them. Similar kits by Athearn and A.T.T. will give the same end results, but due to different methods of body construction a somewhat different slicing formula must be used, so my remarks will be limited to the Rivarossi product. I have built these cars to operate on a system using SCMRA/NMRA wheel standards and with Kadee couplers on all rolling stock so modification to my methods may well be needed to suit your railway.

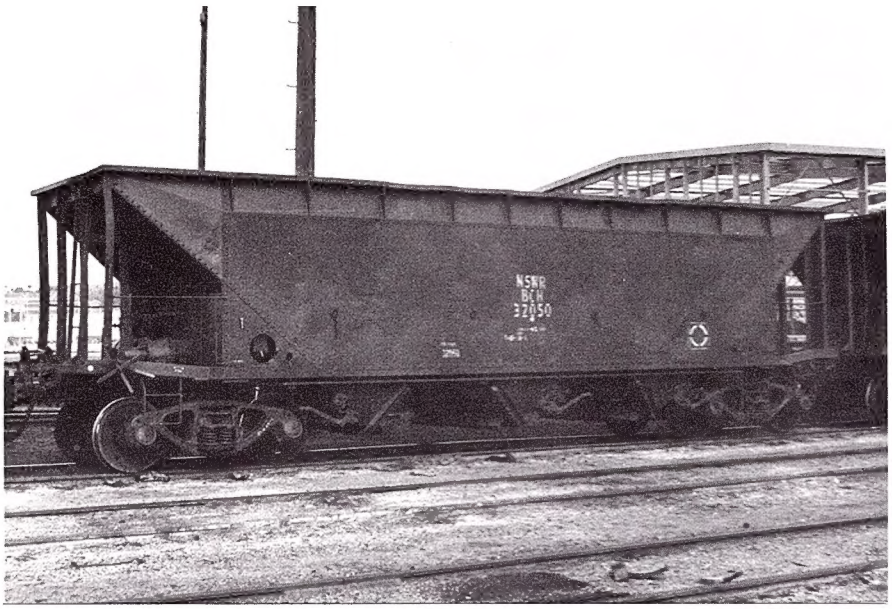
After opening the box and studying the enclosed instruction sheet, remove the main body casting from its plastic bag and proceed to clean off any flash, with special attention to the casting sprue right in the middle, underneath. Next, take the underframe and clip it to the body, taking great care to put the brake cylinders on the *opposite* end to that shown in the instructions. No, I'm not cracking up, read on! A razor saw, or similar cutting tool is now taken to the car as it now stands, to cut out one of the hoppers. Cut on the car centre side of one of the cover strips, and just past the row of rivets in the centre of the car, thus removing two panels from the sides of the car. Continue the cuts straight through the entire vehicle, frame and all. You should now have a long end, a short end, and a middle bit which includes one hopper, the frame being in a similar three pieces. Next thing to do is throw the 'middle bit' into your junk box for possible future use, then, on what is left, clean up the saw cuts with a file. Naturally the whole thing has fallen apart by now, so start scraping as much paint as possible from the groove into which the

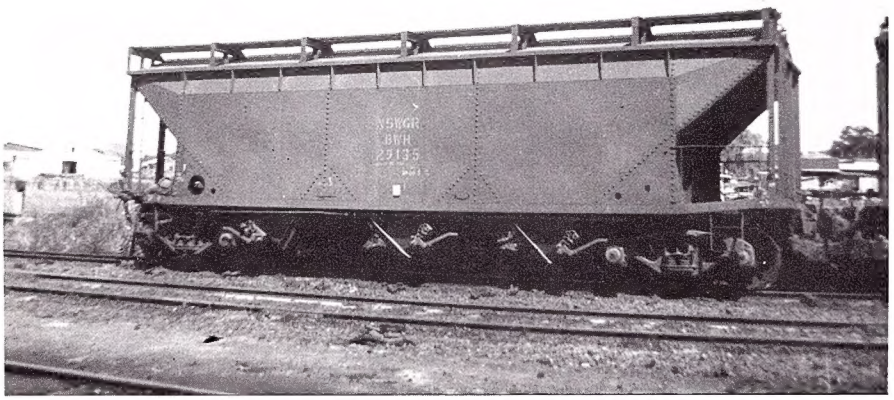


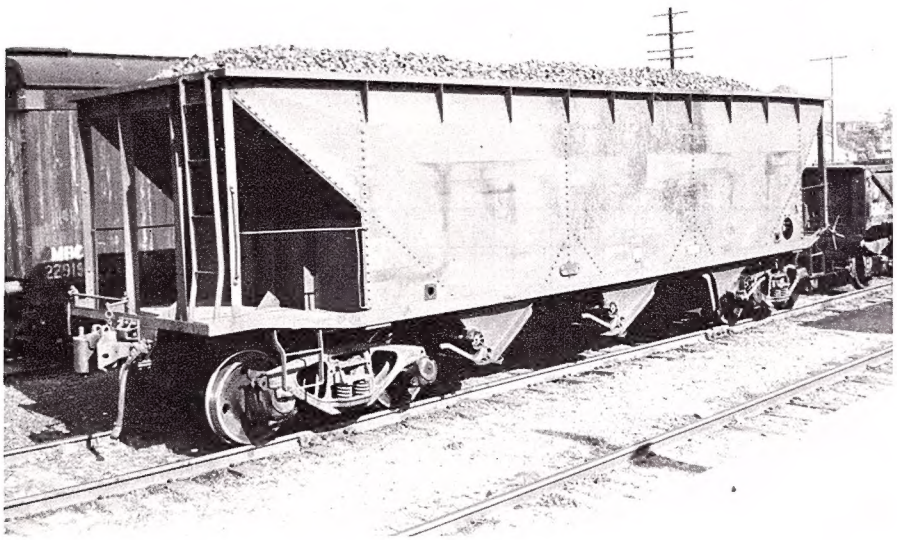


Photos by K. Ryan









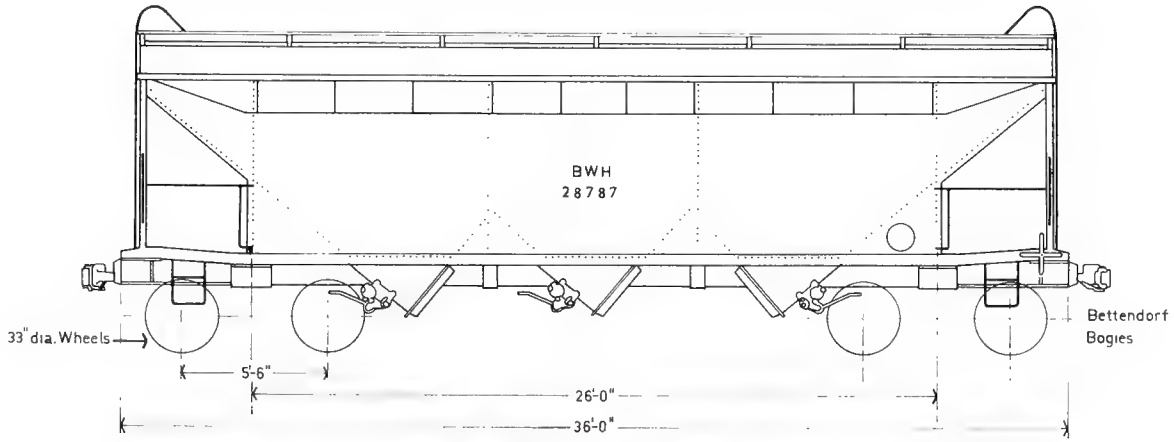
frame fitted, also cleaning around the coupler pin on the body casting. Gather together a flat surface (I used a pyneboard off-cut), a small brush, a bottle of MEK (Methyl Ethyl Ketone) and the long and short ends of both body casting and frame. First a dry run. Fit the long frame to the short body, and the short frame to the long body, thus the brake gear is now at the right end, and, upside down on your flat surface, slide the lot together. Now is your last chance to file off any bumps which stop the two halves from mating properly. Once all this has been done, open the bottle of MEK and do a 'wet' run, welding the frame to the body as well as re-joining the end pieces of the body casting. Set aside the lot to dry for about a half hour.

Meanwhile, back to the box and remove that little bag of goodies, very carefully spreading the contents out on the bench. The bogie bolsters are separated out, the springs are put back in the bag before they go into orbit, the razor saw taken up again, and the coupler is cut off. I use 'Jackson' 10.5 mm wheel and axle sets with the axle ends pinpointed in my friends lathe. Assemble what you have left of the bogie, just as the instructions show you to. A Kadee 'Spring Pic' is a great help in such a job, but it is still not foolproof and great care must be taken to prevent those small springs literally going into orbit.

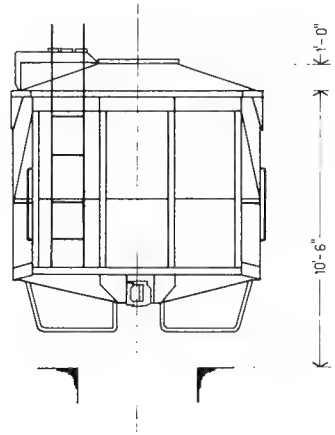
Remember that bit of leftover frame? It is now opportune, when the main joints have set reasonable hard, to cut that bit lengthways in two, and weld it into the inside of the hopper to brace the joint. Before sticking anything else together, slice off the coupler pin, level with the sides of the pocket, thus preparing a pad for a Kadee 5 & 10 coupler. An adjustment will be needed here if either scale 33" or the original wheels are used. When the bogies are fitted, in accordance with the instruction sheet, an assembled 5 & 10 can be welded to the prepared pad, and only minor adjustment (sometimes) is needed on the gladhand to structurally complete something very similar to a NSWGR BCH coal hopper, only painting and lettering being needed.

Of course you may think, like NSWGR, that you can also use such a vehicle to haul other products, so, like NSWGR, I have put a roof on my hoppers, and re-coded them BWH, in an endeavour to keep my wheat crop moving. To make such a roof, the first ingredient is a sheet of 1/8" balsa which is cut to just fit inside the top of the hopper, giving a flat top surface to work on. It should be braced on the underside to prevent warpage. Another strip of 1/8" balsa is glued down the centre of the roof to form a flat ridge piece. From here I have tried two schools of thought, one (and I feel better) is to cut 14 small slope pieces and glue them alongside the previously placed ridge piece. The alternative was to glue a pair of sloped strips of 1/32" balsa down to the sides of the vehicle. In both cases, good quality thin card is overlaid on the wooden frame to give a more 'metalic' finish. The filling hatches were then laid out using 1/64" square Northeastern wood, which material is extended to support a Northeastern roofwalk on one side, as well as being used to imitate the ribbing on the end of the roof.

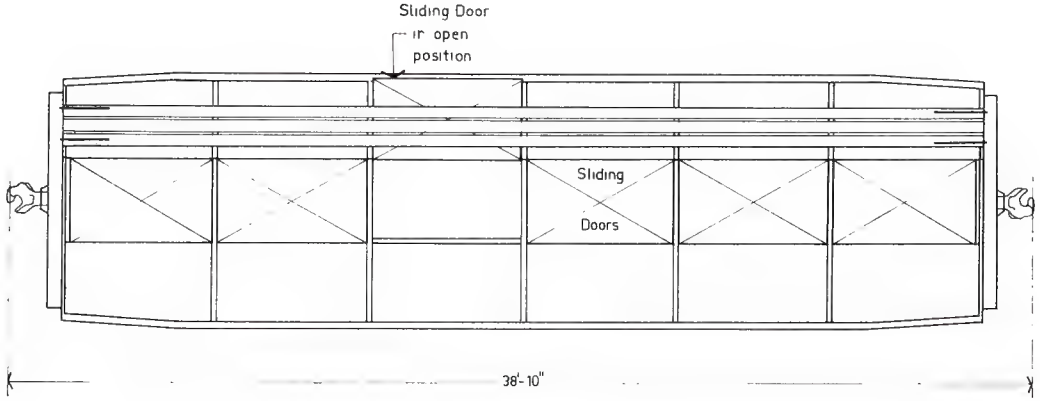
With the addition of paint, I used Floquil Grimy Black, and some lettering, I used Lettraset, and your railway will have a most useful addition to its fleet.



ELEVATION



END ELEVATION



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RGK

for the young modeller

by b.a.r. garratt

Severe limitations are applied if you want to use the type of track you find in train sets (called snap track in model railway circles). They mainly arise from having only one or two curve radii, and these are usually rather tight, so that they can be fitted into a smaller space. With flexible track these problems are eliminated — you bend the track to the radius that you want to use.

However, there is one small detail which you will discover for yourself once you do curve it; the rails will no longer align, the inner one is longer, and must be cut off square with the other before another length is joined to it, and this, in turn, limits any further use in another position. If you are building a layout with any degree of permanence (i.e. on a board, with the track affixed) there is a lot to be said for flexible track, but if, on the other hand, you lay your track down each operating session, it is far better to use snap track, which is usually made rugged enough to withstand recurring assembly.

There are some conflicting viewpoints on how flexible track ought to be laid. Apart from the varying choices of underlay, which I have already discussed at length, there remains the choice to be made whether to tack the sleepers in the centre or at the edges, or to use offset-head spikes to fasten the rail, or to glue the trackbase in place. Now I will discuss each of these methods in some detail, and one other method of tracklaying.

Generally, the easiest method of tracklaying is tacking the sleepers through the underlay into the baseboard. The tacks can be driven through the centres or the outside edges of the sleepers. There are dangers with either method; if you tack down the centre line, the rails, which are usually held only by plastic chairs to the sleepers will lift off the sleeper base and get out of gauge, or if you tack the sleepers outside the rails, alternating from side to side, the track will exhibit a tendency to give a lurching sort of ride. If, again, you tack the sleepers outside the rails, at each side with each sleeper so tacked, the effect will be a tendency for corrugation in your track. All of the above faults can be controlled within reasonable limits by care at the actual time of tracklaying. NEVER push tack heads past the level of the top of the sleepers, as this will have a major contribution to make to the faults just listed.

Glueing the track in place is not highly recommended, due to the fact that it is hard for a beginner to keep the track where it should be. This is usually achieved by lightly tacking the glued track in place at least until the glue dries (allow at least double the recommended drying time). Not much else need be said no this topic, except that care should be taken not to stick down point throw rods and such devices.

Spiked track (the name for track that is fixed using offset-head track spikes) also has its own problems; most of them deal with maintaining straights and radii while spiking, so that this method requires more care initially that others, but with such care will result in a better product. Basically, the operation involves replacing ALL FOUR chairs on certain sleepers (evenly spaced along the track) with offset head spikes, with the heads clamping over the base of the rails, thus holding them.

A variation of spiked track is hand-laid track, where you build your own track, starting from laying sleepers one by one in place, and spiking the rail onto this base. The sleepers are usually glued in place. The main difficulties of this method involve maintaining gauge, especially around curves, and point construction. Again, I don't recommend this method for beginners, due to the difficulties involved. Next issue, I will go on to discuss maintenance of your track and equipment.

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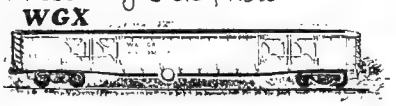

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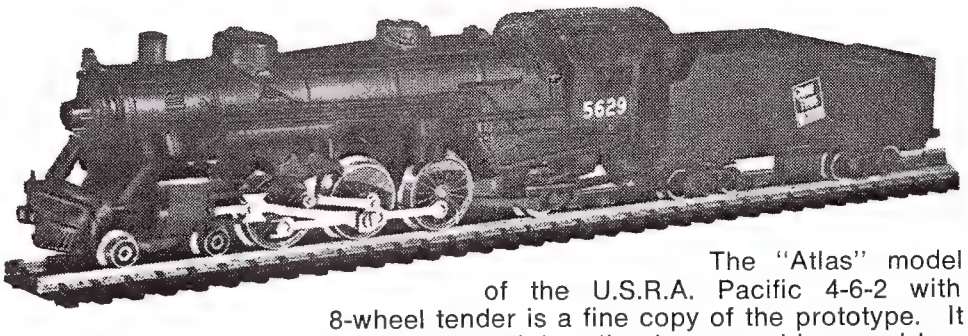

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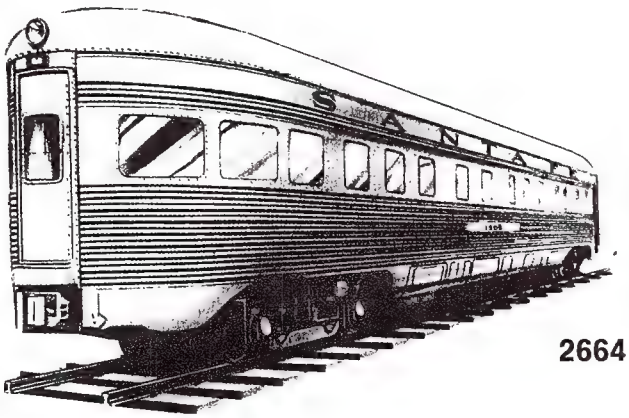

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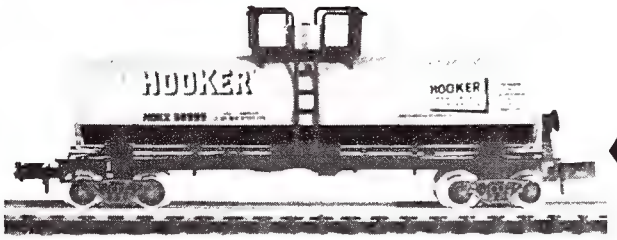

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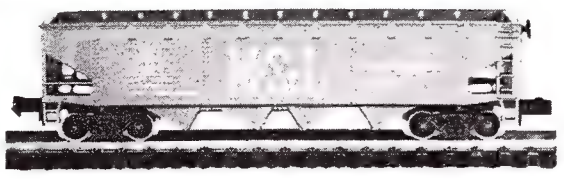

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SCENERY CONSTRUCTION

Frank Andinach

When you are planning your layout you may decide that scenery is superfluous and that you wish to concentrate on constructing and operating the railway. However if you do want to add scenery to your layout, then it is much easier to consider it while designing the layout, as it saves alterations later e.g. raising the track so it is higher than the river that runs alongside it.

The scenery on the layout can be of many types: suburban, industrial or rolling countryside with clumps of bush and scrub. Quite often you will model the scenery on an area that you know and have studied. The area is not modelled exactly, you take the main feature which conveys the atmosphere of the whole. Whatever scenery you attempt remember that it should compliment the railway not smother it.

Scenery building while offering scope for creative abilities, requires most of all patience, patience to get things right.

When planning scenery one must be logical, railways are built to take people animals and goods from place to place. Bridges, roads, cuttings and embankments are all built for definite purposes. Purposes that must be reflected in the layout.

Scenery must be to scale, so that models will not look out of place. For example a hundred foot high tree is 15" in Ho, and 7½" in N. The size of cars and trucks can be a problem, models that look nice on their own often do not fit into the scene.

The countryside is seldom flat, but varies in height. When deciding what to model it is best not to be too ambitious. One mountain with a tunnel, in which you can stop the train to increase running time and the illusion of distance, takes up a lot of room.

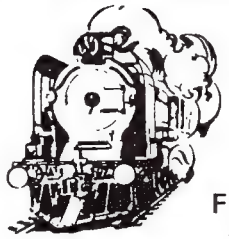
If you are using a baseboard then you will need to vary the track height so that you can have embankments and bridges. With an open scaffold, you have determined your track heights and your scenery is designed to fit this.

Anything that will project more than 4" above the level of the baseboard should be able to be lifted off, except for track on embankments, hills and bridges etc. Removable sections can be attached by dowelling pegs which are inserted into holes drilled in the base board. Where the track is raised above baseboard level, it can be carried on a thin plywood base which is supported by wooden blocks. The gradient of the rise should not exceed 3%, as steeper rises reduce train loads and look too abrupt. The width of the supporting strip is determined by the number of tracks it has to support (duel or single) or whether there are high level points.

Landscaping using crumpled newspaper covered with cloth, which is tacked down, gives the soft natural curves of a rolling landscape. The slope of the land can be given by cutting pieces of three ply to the required slope, and then placing the paper in between, and then covering it with cloth.

Alternatively you can build a scaffolding of bits of cardboard and wood, glued and tacked together, and then covered with cloth. This gives harsher contours, more appropriate to a rocky landscape.

By dipping pieces of old rag in wet plaster or plaster filler and then draping them over the prepared secinic base, you obtain a stiff covering which follows the preformed contours. Do not make too much plaster or filler as they set rapidly in 15 to 20 minutes. If you find that the contours are not right, because they dip too steeply, then add some more paper and recover it. When you are satisfied with the prepared base a layer of plaster a ¼" thick is added and modelled to give the final surface. To make smooth rolling hills use your fingers and a paint brush. A plowed field can be made by drawing a comb through the wet plaster, in HO it should have 8 teeth to the inch. A field of uncut wheat can be made from an area of plaster ¼ to ½" higher then the surrounding cut areas. A stiff brush and a knife can be used to give the fissured face and strata lines of a cutting or exposed rock face. Large masses of rock can be made from premodelled plaster, but these are heavy and require extra support. An alternative is to use pieces of insulating board e.g. "Canite" dipped in a plaster wash and then set in the soft plaster surface.



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When the plaster is dry it is painted with a water based paint, using a brush ½ to 1" wide. Yellows, greens, oranges and browns are required to capture the colour of the earth the rocks and grasses. The colours are applied in washes, which are not liberal enough to run all over the place.

When working with plaster remember to take precautions against the mess that will occur. Cover the floor, wear old clothing and cover the track to prevent the plaster and water falling on it.

An alternative method of constructing mountainous terrain is to use ½" insulating board. The insulating board is broken into pieces about 4 x 2½", these are then sawed in half, lengthwise. They are stacked with the sawn side to the back and glued together with a PVA glue, e.g. "Aquadhere" or with lineoleum paste. The pieces can be used to form horizontal and inclined strata. They can also be used to form creeks and ditches, because they can be easily scored. When complete lineoleum paste, which is brown and so looks like soil, can be dabbed onto the slopes and dyed sawdust or flock sprinkled on to give varying vegetational effects and lichens can be added to make bushes. You can also cover the base with a plaster wash and paint it as before.

If you have a tunnel on the layout, ensure that you have access so that you can reach the track if there is a derailment. Also when modelling tunnels and curtings, to ensure that there is an adequate clearance, run your longest piece of rolling stock through the area.

A rushing foaming river is a great attraction and water is the worst way to make one. A small stream or creek can be made using lineoleum paste. This dries to a light brown colour which is a good substitute for the brown muddy water found in creeks when they are running during the winter. This is highlighted with poster paint to show the ripples around rocks etc. Before starting to model, put in some time studying the real thing. The slope of the railway embankments and of the creek valley can be formed out of flywire which is covered with rag dipped in plaster and treated as described previously, or the cloth may be covered with lineoleum paste. Rocks and boulders are added and then more paste over which is sprinkled the sawdust and flock to give the vegetation. When the paste is dry, vacuum to remove the excess flock and sawdust. The creek is modelled by placing a thick layer of paste along the valley floor, with a small stiff brush, to imitate the flow and ripple of water around rocks and over rapids. Allow it to dry and the highlight it with white poster paint. To give added realism use pieces of lichen to represent small bushes along the bank, remembering that they often almost hide small creeks.

Broad still rivers can be represented by glass or clear plastic sheet as can the lake into which they flow. The surface is placed over a painted base. With the lake the base's colour varies from blue where it is deepest to to a yellowish sandy green at the edges.

Grass can be made from dyed lint or painted plaster. Other coloured vegetation can be made from dyed sawdust or flocks. More or less realistic trees can be made from dried twigs, using dyed dried tea leaves for leaves, or they can be made from lichens. Tree trunks can be made from 5 or 6 strands of wire bound together, this gives the thick trunk from which strands of wire come away to form branches and causes the trunk to narrow.

A backdrop for the layout helps maintain the illusion of realism. If you make it or have a friend make it you can have it blend into the modelled scenery. The backdrop can be made of a painted sheet of cardboard about a foot high which runs along the back of the model, or it may be a type of diorama, especially if you are modelling a town or city, where in front of the backdrop a row of buildings are placed in 'low relief' i.e. the front of the buildings and about an inch of the sides are shown. In front of these are the fully modelled buildings. This technique allows a merging of the models into the backdrop, giving added depth.

As you can see from this brief look at scenery modelling, it is best to think about the scenery while designing the layout, and then to build it after the track has been laid so that clearances can be checked. Remember that people live in towns and so to give your model town an air of life have some model people in the streets. When building the scenery you will find it is best not to rush at it, but to take your time and get each section right before going on to the next.

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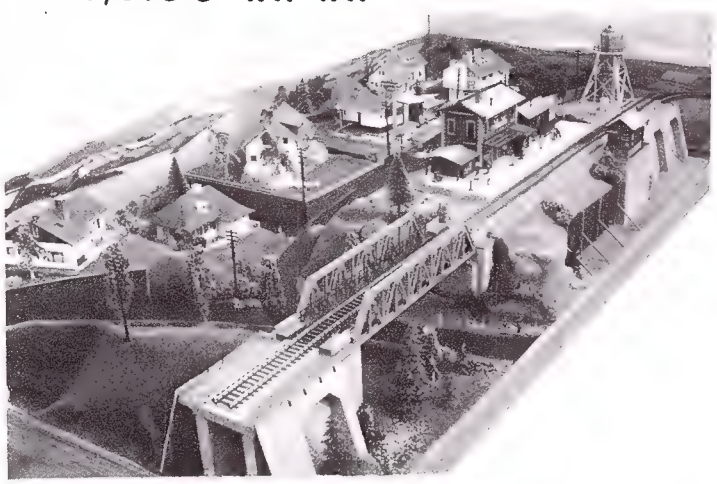

This scene was displayed by AMC at the recent Model Railway Exhibition conducted by the AMRA at Camberwell Civic Centre & illustrates just how realistic 'VOLLMER' buildings & structures are when placed in an appropriate setting. The following items were used in this display:

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SYMPOSIUM ON MOTORS

Ian Weickhardt

Motors for 0 gauge: buy or build?

As there are several good types available, not many modellers would be prepared to fabricate an '0' gauge motor; usually for the same reasons that we don't make our own wheels and couplers, etc.

The main reason is the large amount of precision work involved. However, a good reliable motor can be adapted from an existing motor built for either of two purposes: Government surplus, and automotive — windscreen wiper and other accessory types. Few build a motor from scratch; the time would not be justified. Some have never bought a quality 'O' gauge motor, because the standard of workmanship generally puts a high price on them.

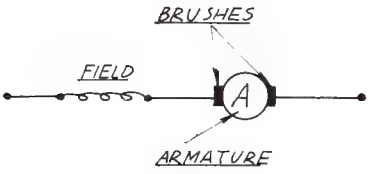
The clue to the practice of adapting commercially built motors was given me by a brass hat who was scratch building when I was "knee high to a tie plate". His locos were excellent pullers, and most had adapted motors. They could run at a convincingly steady 5 mph, or a spectacular 100 mph, with equal ease; this being chiefly due to the sane gearing (30:1 and thereabouts) which he employed, and the large number of poles on the armatures. I have gone on to adapt the same types of motors for my locos, with other salient thoughts.

Requirements of a good motor:

(a) **Reliable starting characteristics.** This is achieved by, firstly, a larger number of armature "poles" than 3. A 3-pole motor is the simplest self starting type, but most of them have a "dead spot" in some armature position or another. The result is the familiar sight of a loco starting off like a scalded cat. Better quality motors have at least five poles, and the best ones usually have the laminations "staggered" at a few degrees along the armature to give a more steady torque (turning power).

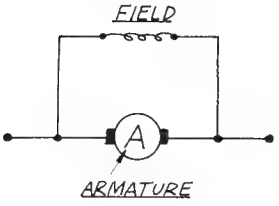
(b) **The gear ratio.** 'Toy' locos usually shriek along at about 200 mph., an insane speed used only in the prototype by record-breaking French trains, on long stretches of straight track. The gearing of any motor to the axles should be arranged to give maximum of 100 mph, at full speed, for an "express" loco; 50 mph for a shunter. Such locos usually have no trouble at 5 mph, or even 2 mph. You can picture a brakeman walking alongside, chatting to the crew!

The two types of motors mentioned previously (i.e., the Government surplus and automotive types) have several, if not all of these qualities. The first are mostly very high quality 12, 14, 24, and 28 volt motors built for maximum reliability — expense being no object. Generally, they have all of the desired qualities Automotive types,



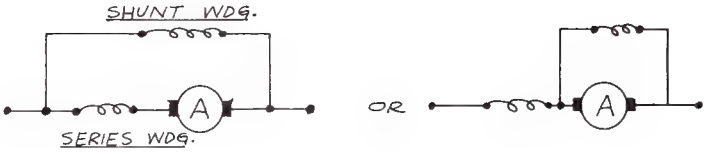
SERIES MOTOR

FIG. (1)



SHUNT MOTOR

FIG. (2)



COMPOUND MOTOR

FIG. (3)

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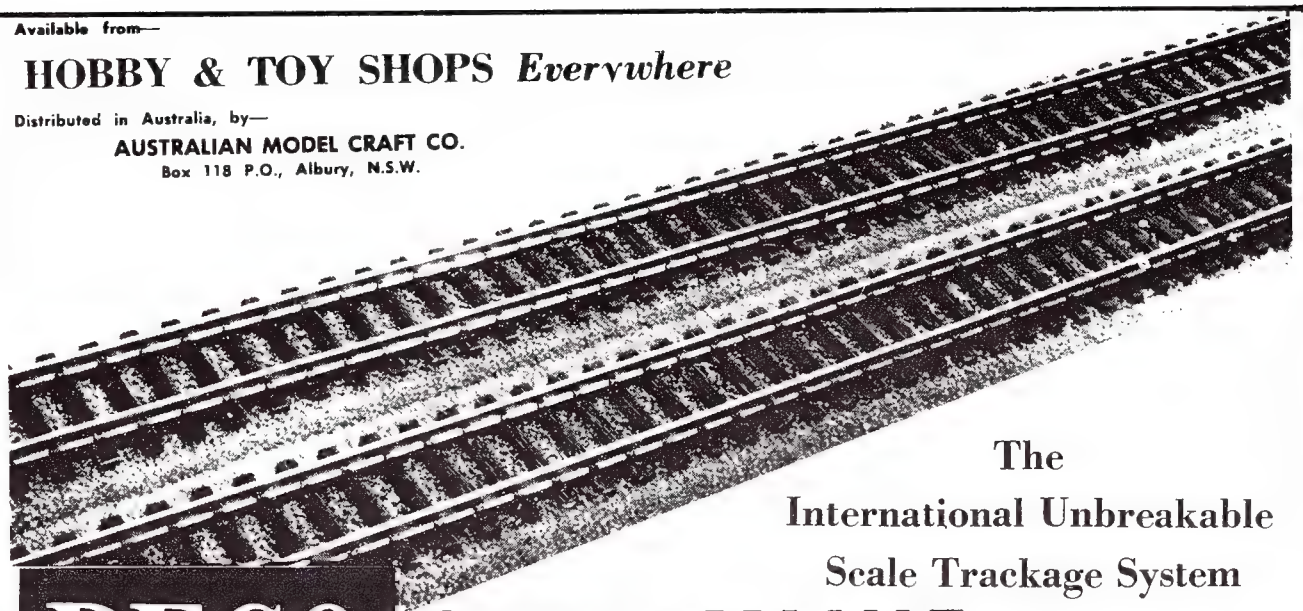

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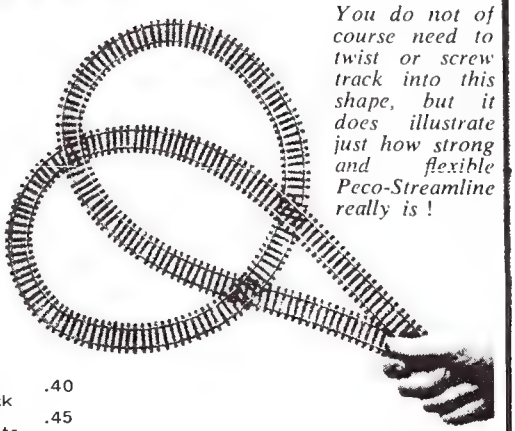

You do not of course need to twist or screw track into this shape, but it does illustrate just how strong and flexible Peco-Streamline really is !

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SL-492X	Crazy Point, Left Hand		2.15

however, vary from mediocre to very good. The poor types have a 3 pole armature, supported in a single bush. A later version has a 5 pole armature which is slightly better. Most of these have good brush gear. The better types, mainly Lucas, have an 8 pole armature and two bronze bearings.

Most automotive and surplus types have a 'wound field', that is, the magnetic field provided for the armature reaction is generated by "field coils" either in series with, or across, the brushes. Some types have a "compound" connection: that is, there are two field windings, one heavy wire and one fine, in series and shunt respectively with the armature. There is also a type of Government surplus motor with two equal fields; they are energised one at a time in series with the armature to achieve forward and reverse rotation as required. Shunt and compound motors are not suitable for model locos, as their starting torque is not nearly as great as series motors. (Prototype locos use series motors for this reason.) The various types of motor are illustrated by figs. 1 to 4.

(c) **Reversability of the motor.** Fig. 5 shows the permanent magnet type motor. This is most commonly used in model locos. It is the only type which reverses when current is reversed. Reversing of *wound field* D.C. motors is a problem on its own. The method of reversing is, basically, transposing the connections to the armature. There are three methods of reversing these motors — one manula and two remote control. Of the wound field types, many (excepting the automotive type) may be fitted directly into a loco or tender; leaving you still, however, with a reversing problem.

The manual method is the switch on the loco, with two "changeover" (or S.P.D.T. as they are often called) springsets wired as shown in Fig. 6.

The first remote control method is a relay type (fig. 6 and 6A). This uses a relay (an electrically operated switch) to change the armature connections. The relay responds to current in one direction only, due to the action of the diode.

The second remote control method is the use of a bridge rectifier (rather bulky), or four diodes connected as shown across the the motor field. Very relaible. (see fig. 7.)

We have reached the end of the discussion on motor types and problems: the suggested methods of modifying surplus and automotive motors are now described.

1. Automotive Types.

The modification of the 'Lucas' is given.

The smaller 'Lucas' windscreen-wiper motor is a beautifully engineered motor that lends itself well to adaptation. It is easily bought in auto wrecker's yards; it is found in many English cars. It is a "compound" wound motor, with a bronze sleeve bearing at the output end and an adjustable thrust bearing at the other end. The brush gear is excellent. The gear train, if attached, has only limited usefulness: it can be stored in the junk box. The shaft terminates in a bronze worm which is not generally useful in locos. However, a flywheel and slotted collar can be fitted over it quite easily — more of that later.

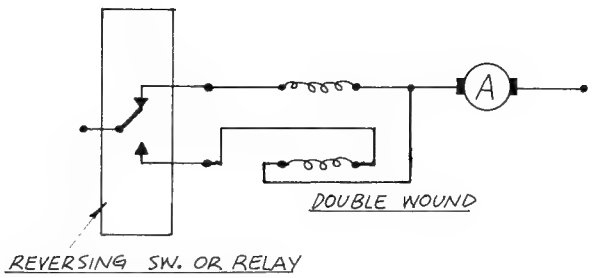
Modification

After dismantling the motor and storing the brushgear and armature, the field is cut off and removed, and much of the die casting can be filed off. Cut off the lug of laminations and then file down the metal on the oil-hole face (at right angles to the face the lug was cut from), until the armature tunnel is exposed. There should be a surface of laminations exposed on either side of the tunnel. From here on the filing is only to remove the die-cast metal from the tops of these surfaces, and to carefully true them flat and level, taking the least possible amount of steel from them. Next, a suitable flat magnet is bought. The Australian "Rola" FM379 is a good choice. Have it ground flat on one face to match with the field laminations; have Rola do the grinding because the alloy is extremely hard.

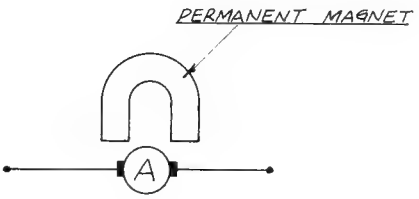
Reassemble the motor after cleaning the armature tunnel, commutator, and bearings. The motor should now be magnetised, with the magnet in situ, by a firm having a powerful magnetiser. Adjust the brush spring tension to achieve maximum rpm without excess arcing. Typical current, at 12 volts, is 1 amp.

The conversion of the motor is now complete; and to improve its performance as a propulsion unit, a heavy flywheel should be fitted to the shaft, secured, and carefully balanced to minimise vibration. Starting and stopping are thus much improved.

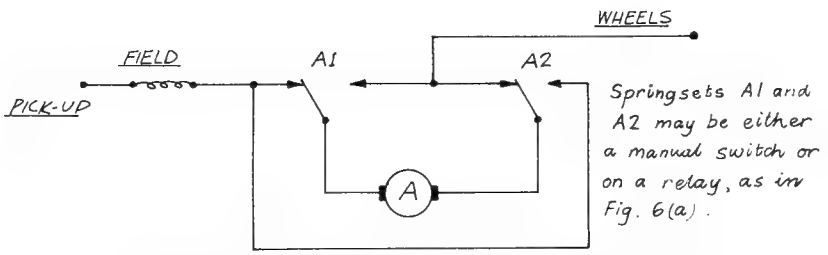
These motors are quite large, so they are best fitted into tenders, or diesel loco bodies, and hooked up to the mechanism with a flexible drive. This requires a slotted collar on the shaft, a system which works very well. (Three of my locos have used it for some time, with zero maintenance required.



SERIES MOTOR FIG. 4



PERMAG. TYPE MOTOR FIG. 5



REVERSING A WOUND-FIELD MOTOR Fig. 6

POLARITY SENSITIVE RELAY FIG. 6

2. Government surplus types.

Choosing the right motor: obtain a series motor with a D.C. resistance of between 3 and 6 ohms *across the brushes.*

The first move is to dismantle the motor, and store the armature which is generally a 7, 8 or 9 pole type — and also the brush gear. Some motors accommodate the brush gear in a removable end section of the case. If so, remove this also, and store it with its screws. If the ball races drop out, put them aside, too. Other motors need to have the brush end of the case cut off. The case containing the field can generally be discarded, unless the bearing is integral with it. If this is the case, cut that end off, as well.

The next steps are a record of my own experience. Many will use alternative methods, equally as good or probably superior to mine. An overall picture is given in Fig. 8.

The new field consists of a length of 2" x 2" bar, machines at both ends to the length of the lamination stack on the armature. It is drilled along its axis to a diameter 3/32" greater than that of the armature. I had these two tasks done at a turning and fitting shop, in exchange for a small favour.

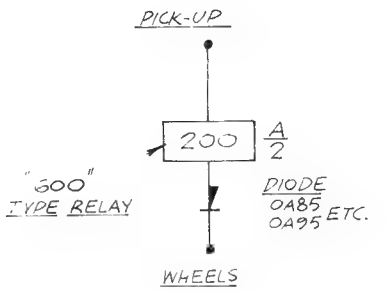
Next are the end plates. These are 2" x 2" 16 gauge brass, punched or drilled to the same diameter as the armature tunnel. These plates are next drilled 11/64" near each corner, and fastened onto the ends of the field block with adhesive tape, with the 11/64" holes left visible; these are marked through onto the block, and the block drilled 1/8" and tapped 5/32" Whitworth at the marks. Indelibly label the end plates and their position on their respective ends (most important), and then cut the field into 2 pieces longitudinally, removing about 3/8" of iron on each side. Smooth off with a file. Assemble the end plates to the two pole pieces thus formed, and screw up tight.

Take the two ball races from their end plates and drive them onto the armature shaft — this is, if they did not come out of the motor still attached to the shaft.

Position the shaft in the tunnel, and centre it with wedges. Measure the distances between the outer sleeve of the race and the centres of the end plate fixing screws. Fashion lugs to be secured beneath those screws, and abutting the races: flux them with an acidic flux, such as "killed spirits of salst". Solder the lugs to the races with a good hot iron. Cool the races with water, then immediately wash them in petrol, and re-lubricate them. It sounds incredible, but it really works.

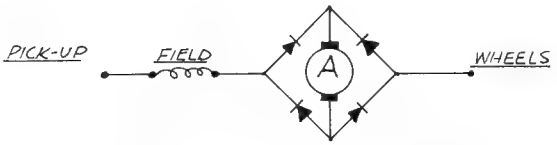
The brushgear may now be positioned. Try it in various positions, until the motor develops maximum power. Position on more lugs secured under the end plate fixing screws, or by adapting the original brushgear case. This is generally done by drilling two holes in line with two of the end plate fixing screws. The motor brushes are now the terminals of the motor. Adjust the brush spring tension (by shortening) to achieve maximum power without excessive arcing. Position a suitably sized flat permanent magnet on the pole pieces. If necessary, true the pole pieces first with a large flat smoothing file. Here, too, the face of the magnet should be machined smooth.

The motor should now be magnetized by a magnet manufacturer, or by a firm with a powerful magnetiser. (Look up the Pink Pages of your Telephone Directory, under "Magnet Manufacturers".)



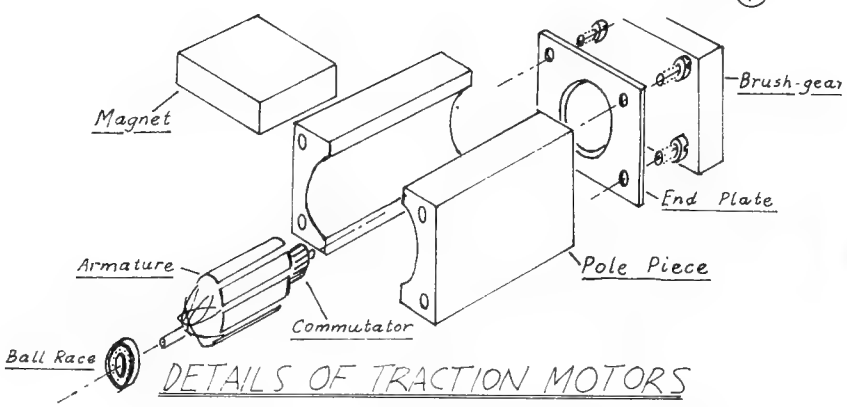
POLARITY SENSITIVE RELAY

FIG. 6A



METAL RECTIFIER OR FOUR POWER DIODES:-
(E.g. AUTOMOTIVE TYPES)

FIG. 7



DETAILS OF TRACTION MOTORS

Fig. 8

Motor mounting.

There are two ideals to aim at here:

(a) quietness of operation.

(b) ease of access for maintenance or removal.

(a) Quietness is achieved mainly by prevention of noise transmission to the loco itself. It is easily achieved by securing the motor through rubber grommets — or other insulating devices — and avoiding metallic contact between the motor and the chassis (or body) of loco.

(b) A motor which is secured by screws and nuts is the easiest maintained. Use "star" or "Shakeproof" washers beneath the nuts or screw-heads, to prevent loosening by vibration.

Continued on Page 24

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Eastern Division
Future meetings:

April 17 Bob Kable, 16 Endeavour St, Sans Souci.
May 8?
June 12?
No locations have yet been fixed for these meetings. If any volunteer comes forward members will be advised by post.

South Australian Railway Modellers Association. Secretary Bob Irvine — 50 Gardiner Ave., Warradale. S.A.

Attendance at the February General Meeting was lower than normal with many members away on annual holidays. Seven members joined the multitude in Launceston for Centenary Celebrations of the Tasmanian Government Railways during the wekk 7-14 February. Ken Foran, many miles from Sydney, and obviously enjoying his holidays in the city of sunshine and Churches displayed two of his scratchbuilt tank locos at the February meeting and discussed plastic casting procedures with several members.

The March meeting was set aside for our annual model competition and results will appear next issue. April will be the election of officers and members' slides will round off the entertainment. Could see some of the Tasmanian Safari but, we hope, without those cursed March flies. May will see the beginning of a new SARMA year. Work is proceeding steadily on the layout room at Mile End and the exterior renovations are nearly completed. The interior is quite another subject and we intend having the April meeting in this building to give members an idea of the space involved. Ideas for the design of the new layout are beginning to crystalise as members swap thoughts. Construction nights begin in March after the Christmas holiday break. First on the agenda will be the SAR Cattle Wagon using the procedure devised by Barrie McKinnon and Paul Brooks. We have already been treated to the sight of 15 or more of these wagons in a train on the old layout and the favourable comments mean it could well prove to be the most popular model, numerically, we have attempted. Third Friday of each month is the night to remember.

We welcome visitors to our monthly meetings and suggest they contact the Secretary as the venue may be changed at short notice. Membership is open to all who are interested in model railways regardless of scale, gauge or prototype.

BULLETIN OF THE SYDNEY MODEL RAILWAY SOCIETY

4th floor
Railway Institute Building
273 Castlereagh Street, Sydney
(Opp. Mark Foys)

MEETINGS: Every Monday (holiday excepted) 7.30-9.30. Visitors welcome on 1st and 3rd Mondays of month; visitor parties must make prior application by letter.

NEW MEMBERS: Membership is now open for new members over 20 years of age for both O and HO sections. They must be actively involved in model railway construction and/or operation and attend regularly, and contribute their skills to building/repairing the Society's model equipment and manning the layout control boards for operational sessions. Apply by letter, or personally on a visitors' night.

OFFICIALS: President—Paul Simpson; Secretary—John Bowen; Vice-Presidents: O gauge, Don Stone; HO, Bob Gallagher.

Very little to report since last time. Following re-opening of the club after the Christmas break, all the rolling stock has been cleaned and oiled and the track cleaned. Timetable running has been resumed amid the usual difficulties of engine and operator shortages.

One new item has shown up, this being JACK CLIFTON'S very fine model of a VR "T" class diesel.

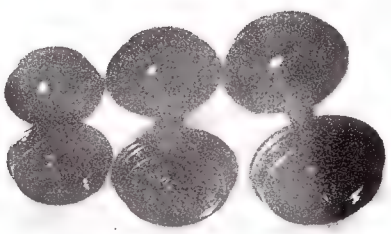
SYMPOSIUM ON MOTORS

Anybody who solders or otherwise permanently secures a motor deserves all he gets.

This article was originally planned for the edification of my compatriots in 'O' (or King) Gauge. Some of the ideas may be helpful to modellers in the more common scales: be that as it may, I would caution anyone against attempting to build a motor in the smaller scales. Prices for Pittman, Kemtron, and other motors are not unreasonable.

From time to time the Model Railroader have published articles on renovating or modifying these commercially made motors. Modellers can find these articles by checking through the M.R. Annual Index supplied in their bound volumes, or through the N.M.R.A. Periodical Index, or by writing direct to Model Railroader.

PMH
PLASTICS
present



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mail bag

Sir,

When I noticed the reviews of Australian kits, I was pleased to see them, as shops are full of overseas items. Then, when I read about the faults, small in number certainly, I felt let down.

As for the couplers, why not supply operating couplers in the first place? When you mention purchasers fitting couplers of their own choice, this reads like the break-of-gauge problems.

J. GOODMAN
Surry Hills, 2010

Sir,

C.H. Pratten (Vol. 4 No. 12) brings forward a subject of a long standing, wide spread source of complaint. Over six years I can recall letters from seven countries in various magazines on this subject. There is one important difference however, as he mentions satisfactory sources of supply, which is of great service. Perhaps other readers could also supply names of reliable suppliers.

I can only endorse the Model Dockyard, also a hobby shop in Chester St, Oakleigh Victoria. The name escapes me at the moment but I will forward the full name and address soon.

From experience I see three 'traps' to be avoided:

1. It may seem a bit ridiculous to say so but a Model Railway is not a toy. For example knowing roughly the time allowed to 'learn a frame' in the Victorian Railways, being a signalman of 5 years experience I would 4 days would be allowed to learn a 'frame' like that on my model railway . . . some toy! So why go to a toy shop. In my experience they are next to useless. One example — The store carries a large stock of transformers, controllers, and high-price locomotives but no track leads and clips. No wonder the toy shop keeper complained of a poor turnover.
2. Never assume that the shop assistant knows more than you do — there may be those who do but a lot of them are just 'wrappers'. Even hobby shops as distinct from toy shops need watching carefully. Keep your wallet in your pocket until you get what you want.
3. Don't run around from shop to shop, suburb to suburb. This is expensive in time and money and quite frustrating. I know it's quicker for me to go to Melbourne and get an order filled at the Model Dockyard than to try to get it filled in the suburbs (other than shop mentioned at Oakleigh).
4. To avoid these traps find a reliable source of supply and stick to it. I offer my present plan as a suggestion which may be helpful.

Having completed the Capital outlay on my model railway I try to look a couple of months in advance — what will I need for maintenance — lights, perhaps a couple of point motors, some lead wire, cleaning material, etc, and write out the order for a one trip and try to have what I need on hand in advance.

Eric G. Watson.
Clayton, Vic.

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errata

Bob Farquhar's name has been misspelt in the last two issues. My apologies. The photos on pages 20 and 25 of the last issue were transposed due to an error at the printers. (At times the gremlins are bad—J.J.B.)

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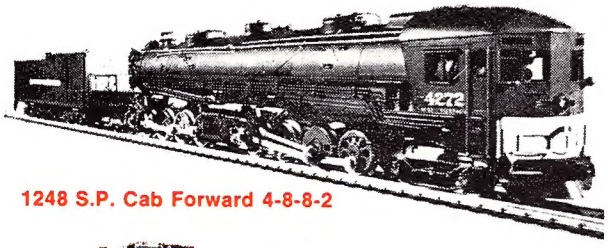

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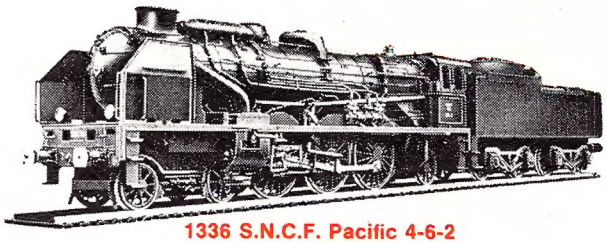

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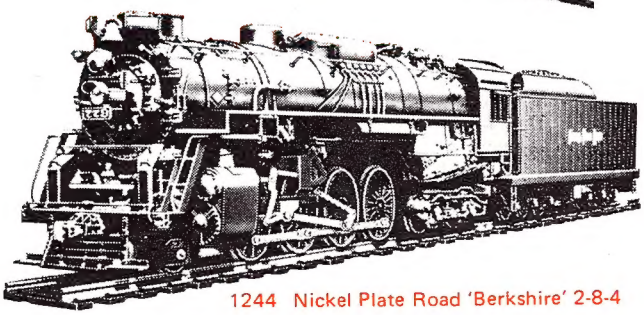
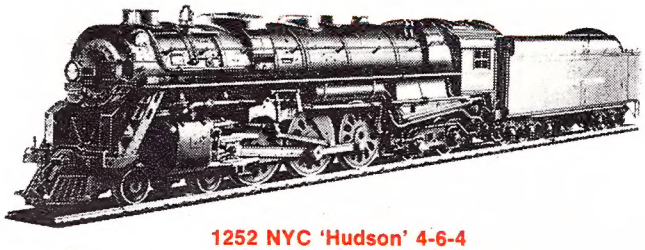


1244 Nickel Plate Road 'Berkshire' 2-8-4



1252 NYC 'Hudson' 4-6-4

1825 Northern Pacific E-8 G.M. Diesel, 2 'A' Units

LOCOS ILLUSTRATED:

1248	Sthn. Pacific Cab Forward 4-8-8-2 Articulated Loco w/tender, full valve gear, working headlight, Black, 17½" long.....	$65.00
1336	French Pacific 4-6-2 w/tender of the SNCF, full valve gear, working headlight, Black, 11¾" long..... (Also available No. 1337 in Brown livery)	$47.50
1244	Nickel Plate Road 'Berkshire' 2-8-4 w/tender, full valve gear, working headlight, Black, 14¼" long.....	$49.95
1252	NYC Hudson 4-6-4 w/tender, full valve gear, working headlight, Black, 13½" long.....	$43.95
1825	Northern Pacific E-8 G.M. Diesel, 2 'A' Units, Chocolate & Green, working headlight, 20" long.....	$29.95
NEW!	Available NOW:- 1801 E-8 Double 'A' Unit in Santa Fe livery.....	$29.95
	1829 E-8 Single 'A' unit in B & O livery.....	$17.95

A SELECTION OF OTHER 'RIVAROSSI' LOCOS:

1664	Pennsylvania 2-Co+Co-2 Electric Loco, Maroon, working headlight, Pantograph or 2-rail operation, 12" long.....	$41.50
1996	German DB V320 12-wheel Diesel, working headlight, Red. 11" long.....	$19.95
1254	U.P. 'Big Boy' 4-8-8-4 w/tender, full valve gear, working headlight, Black, 19" long....	$75.00
1224	Indiana Harbor Belt 0-8-0 switcher w/tender, full valve gear, working headlight, Black, 11" long.....	$27.95
1225	B & O 0-4-0 Switcher, 8-wheel slope-back tender, full valve gear, working headlight, black, 7½" long.....	$15.95
J40	French Old-timer 0-6-0 w/tender, working headlights, Green, 7" long.....	$15.00
1238	Mallet Y6b 2-8-8-2 articulated loco w/tender, full valve gear, working headlights, Black, 16¼" long.....	$59.95
1221	B & O 0-4-0 Tank loco, full valve gear, working headlight etc., Black, 4¼" long.....	$12.95

If your dealer is stumped, he is invited to, or you may, write to us for supplies.

AUSTRALIAN MODEL CRAFT CO.

BOX 118, P.O. ALBURY, N.S.W. 2640

Phone: Albury 21-2473 :: **Telegrams: AMRIANA, Albury**